

ABSTRACT OF THE DISCLOSURE

An impedance module for calculating the impedance of a body part creates stimulus currents for injection into the body part and receives resulting voltages generated by the body part. The impedance module includes a current generator for generating the stimulus currents, the stimulus currents including a current signal and a complementary current signal thereby forming a differential current signal. The impedance module also includes voltage processing circuitry for pre-processing the received voltages and amplifying the received voltages to generate a measured voltage signal; processing circuitry for creating a current control voltage signal for controlling parameters related to the stimulus currents, and for calculating an impedance value based on the stimulus current and the measured voltage signal, and interface circuitry for interconnecting the components of the impedance module.